

Date: 22 Oct 94 05:53:31 GMT

From: sphillip@nyx10.CS.du.EDU (Steven Phillips)
Subject: Ham-Homebrew Digest V94 #280

unsubscribe ham-homebrew

Date: Fri, 21 Oct 1994 23:30:29 GMT
From: pouelle@uoft02.utoledo.edu
Subject: Looking for MPF102 replacement

In article <37nbd6\$g5g@abyss.West.Sun.COM>, myers@Cypress.West.Sun.Com (Dana Myers) writes:

>In article 9971@ultb.isc.rit.edu, jdc3538@ultb.isc.rit.edu (J.D. Cronin) writes:
>>

>>I have a few projects in mind that use a MPF-102 for pre-amps on
>>2-meters and 440. Are there any newer parts that have better gain
>>or less noise? The Motorola RF Device book doesn't list substitutes
>>for the MPF102.

>
>I'd recommend the J308/309/310 family for 2m/70cm pre-amp use. A J310
>is certainly superior to an MPF102 in these applications. However, you
>may need to adjust the circuit to the different specs of the J310 (have
>a look at the data sheets). A 2N4416 is essentially identical to an
>MPF102, and may be easier to find.

>

>---

> * Dana H. Myers KK6JQ, DoD#: j | Views expressed here are *
> * (310) 348-6043 | mine and do not necessarily *
> * Dana.Myers@West.Sun.Com | reflect those of my employer *
> * "Antenna waves be burnin' up my radio" -- ZZ Top *

>

>

Easier to find???? My local Radio Shack carries MPF102s in stock. A bit
on the expensive side, but real easy to find.

Patrick
KB8PYM
pouelle@uoft02.utoledo.edu

Date: Fri, 21 Oct 1994 12:40:47 GMT
From: gary@ke4zv.atl.ga.us (Gary Coffman)
Subject: Paralleling amplifiers

In article <19940ct20.151732.17084@gov.nt.ca> ve8ev@gov.nt.ca (John Boudreau)
writes:

>I have several identical 2m amplifiers. Could anyone tell me how
>feasible it would be to operate them in parallel using phasing cables
>on the inputs and outputs similar to phasing two antennas?

That's not really feasible, the interaction will make tuning any of the amplifiers an exercise in futility. The output of each amp will be feeding into the output network of the others. That way lies madness. You can use Wilkinson combiners and splitters, but you'll still need some way of adjusting the phase of the signals, otherwise you'll just be dumping power into the reject loads. Line stretchers would work, or you could use lumped element networks. The problem is that even identical amplifiers won't have the same phase shift through them, and phase shift can change with varying power levels, but the outputs need to be in phase to combine constructively, so you have to have adjustable phasing to get them all to the same phase at a given frequency and power level. Most broadcast transmitters today are built up from a bunch of modules combined in that fashion.

Gary

--

Gary Coffman KE4ZV		You make it,		gatech!wa4mei!ke4zv!gary
Destructive Testing Systems		we break it.		emory!kd4nc!ke4zv!gary
534 Shannon Way		Guaranteed!		gary@ke4zv.atl.ga.us
Lawrenceville, GA 30244				

Date: Fri, 21 Oct 1994 15:26:14 GMT
From: jholly@cup.hp.com (Jim Hollenback)
Subject: Ten-Tec Kits AT LAST!

loase@iccgcc.cs.hh.ab.com wrote:
: I received my T-KIT 6 meter transverter yesterday.

: first impresstions are
: 1. Not a Heathkit but very nice.
: 2. Good manual
: 3. skimped a little on the board
: no solder mask
: no plated through holes
: but still a nice board.

Just like the boards in the factory built xcvr's. Why should they be different on the kit?

: 4. Very complete kit
: 5. Nice looking metal silk screened cabinet

: 6. How in the world did they give me all this for \$95.00

: Best Regards
: Jim Loase WD8RPT

Date: Fri, 21 Oct 1994 13:12:21 GMT
From: gary@ke4zv.atl.ga.us (Gary Coffman)
Subject: The Little Razor Blade Radio

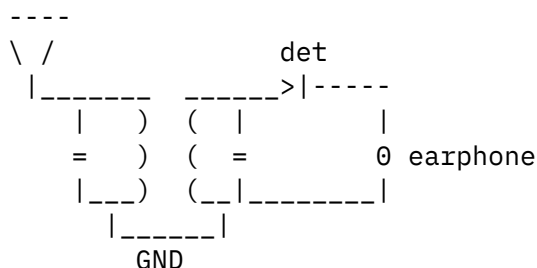
In article <38689f\$mej@sandra.teleport.com> burt@teleport.com (Burt Keeble) writes:

>I am having the greatest time discovering the secrets of this
>gadget.
>
>It's principal components are a razor blade and a pencil lead.
>
>You wrap a coil (120 turns) around a toilet paper tube.
>One end communicates with the antenna and the razor blade.
>The other end communicates with the ground and the earphone.
>the earphone sits between the pickup (pencil lead attached to a paper
>clip) and the ground.
>
>At present, all i can get is the same station at 970 KH, regardless of
>the size of the coil, or the kind of razor blade.
>
>It even works when it is *not* grounded! (Go Figure).
>
>Would anyone care to elaborate on this subject, offer ideas for
>improvement while keeping things primitive, or share similar experiences
>with similar types of receivers?

Burt, the tuning of your design depends on the electrical length of the antenna and the inductance of the loading coil. To change frequency, you have to change either the length of the antenna, or the inductance of the coil. There are several ways to do the latter. Inserting ferrous metal into the coil tube will increase the inductance, or inserting brass will lower it. You can place taps on the coil and switch them. You can sand off the insulation in a line and use a slider contact to tune the coil. Etc.

All of these approaches are "classic" but none of them offer much selectivity. As you've discovered, a strong local signal will still dominate the equipment no matter how you alter the tuning. To get better selectivity, you'll need to resonate the coil and form a *loose coupler* by winding an identical coil on the form and

resonating it as well. By varying the spacing of the two coils on the form, you can make the coupling tighter or looser. The looser the coupling, the sharper the selectivity you will have. (the razor blade detector goes in the secondary circuit.) But of course, the looser the coupling, the weaker the signal will be at the detector. You may want to advance to a more sensitive detector, such as a galena detector or an electrolytic detector. The latter is a metal cup containing lemon juice with a cat's whisker dipped in it and pulled up to form a meniscus. That's about as sensitive a detector as you can make without getting into vacuum tubes or solid state devices.



If you make the coils variable, you can form the capacitors out of alternating layers of aluminum foil and wax paper. You can tune them a bit by making a screw clamp to tighten or loosen the stack. Or you can make your own air variable capacitors out of metal disks. Brass washers cut in half make good capacitor plates, copper would be even better. One set would be fixed, and the other set soldered to a shaft.

You can also experiment with tapping the antenna and the detector up or down on their respective coils. this will be an attempt to better match the impedances for better power transfer.

Gary

--

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Date: 21 Oct 1994 17:47:16 GMT
 From: gpasupat@ee.ryerson.ca (GANESH PASUPATHY)
 Subject: UHF portable trans. & receiver

Hi:

I'm new to this newsgroup. Can someone direct me in the direction of building a 150 Mhz, AM-single tone transmitter and the accompanying receiver.

Ganesh

e-mail: gpasupat@ee.ryerson.ca

Date: 21 Oct 94 19:56:23 GMT
From: xenolith@halcyon.COM (Kevin Purcell)
Subject: xmitting on 2.4 GHz with Microwave Oven?

By phase locking the magenetron to a stable source you can get a clean signal but you can only use it for CW or FM.

The write up was in a recent (1994?) Communications Quarterly (form the folks who bring you the other CQ).

I beleive the guy wanted to do EME. He built it and got it working.

Kevin Purcell | xenolith@halcyon.com | 206/649-6489
Seattle dBug Mac Developers SIG Organiser | kevinpu@atm.com | N7WIM + G8UDP

Date: Thu, 20 Oct 94 00:41:03 -0500
From: vimx <vimx@delphi.com>
Subject: xmitting on 2.4 GHz with Microwave Oven?

Sounds frightening, doesn't it? I would think it's more dangerous to use a regular transmitter because you'd be making microwaves more efficiently. It would be a wild EME experiment, woudn't it?

Hypothetically, how would you connect the magnetron to an antenna, and what kind of antenna would it be? A horn? If this is possible, legal, and useful I think I might want to try it someday after I learn a lot more about microwaves, but for now it's a lot of fun to think about.

Any thoughts or ideas on this?

End of Ham-Homebrew Digest V94 #311
